# Modem Interface
# Type D 9091 0210

Dupline® Fieldbus Installationbus

- **5 operation modes**
  - **Public line remote**
  - **Public line central**
  - **Private line master**
  - **Private line slave**
  - **RS 232 interface**
- **Baud rate: 300, 1200, 2400, 4800, 9600 Baud**
- **Protocols: Hayes AT and CCITT V.25 bis**
- **LED-indications for supply, call initiate, external Dupline® OK and modem connection OK**
- **AC power supply**

## Product Description

Dupline® interface for commonly available telephone modems (autodial or leased line). Hayes AT or CCITT V.25 protocol with selectable data format. Event, time or manually controlled connection between autonomously operated remote Dupline® installations and a central location.

## Ordering Key

**D 9091 0210 024**

**Type: Dupline®**
**Type no.**
**Supply**

## Type Selection

| Supply | Ordering no. |
|---|---|
| 24 VAC | **D 9091 0210 024** |
| 115 VAC | **D 9091 0210 115** |
| 230 VAC | **D 9091 0210 230** |

No code module required

## Supply Specifications

| | | |
|---|---|---|
| **Power supply** | | Installation cat. III (IEC 60664) |
| Rated operational voltage | 024 | 024 VAC ± 15% |
| | 115 | 115 VAC ± 15% |
| | 230 | 230 VAC ± 15% |
| Frequency | | 45 to 65 Hz |
| Voltage interruption | | ≤ 40 ms |
| Power consumption | | Typ. 6 VA |
| Rated operational withstand voltage | 230 | 4 kV |
| | 024 | 800 V |
| Dielectric voltage | | |
| Supply - Dupline | | ≥ 4 kVAC (rms) |
| Supply - Com. port | | ≥ 4 kVAC (rms) |
| Supply - Input | | ≥ 4 kVAC (rms) |
| Supply - Output | | ≥ 4 kVAC (rms) |

## Input/Output Specifications

| | | |
|---|---|---|
| **Communication port** | | RS 232<br>25 pole male SUB-D |
| Pin allocation | TxD | Pin 2 |
| | RxD | Pin 3 |
| | GND | Pin 7 |
| | DCD | Pin 8 |
| | DTR | Pin 20 |
| Dielectric voltage | | |
| Com. port - Dupline® | | ≥ 500 VAC (rms) |
| **Dupline Tx inhibit input** | | Contact or NPN transistor |
| Open loop voltage | | 5 VDC |
| Short-circuit current | | 50 µA |
| Contact resistance | | ≤ 10 Ω |
| Cable length | | ≤ 3 m |
| Dielectric voltage | | |
| Input - Dupline® | | ≥ 500 VAC (rms) |
| Input - Com. port | | None |

| | | |
|---|---|---|
| **Output** | | 1 SPDT relay |
| Function | | Alarm |
| Contact ratings (AgCdO) | | µ (micro gap) |
| AC voltage | AC1 | 5A/48 VAC (240 VA) |
| DC voltage | DC1 | 0.7 A/48 VDC (33W) |
| Load current | | ≥100 mA |
| Mechanical life | | ≥ 30 x $10^6$ operations |
| Elect. life (at max. load) | AC 1 | ≥ 2.5 x $10^5$ operations |
| Operating frequency | | ≤ 7200 operations/h |
| Dielectric voltage | | |
| Output - Electronics | | ≥ 4 kVAC (rms) |

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## General Specifications

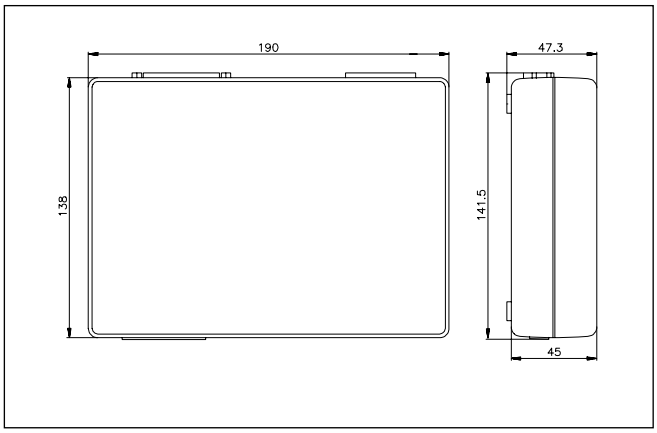
| | |
|---|---|
| **Power ON delay** | ≤ 2 s |
| **Indication for** | |
| Supply ON (PWR) | LED, green |
| Call initiate (CI) | LED, green |
| External Dupline OK (EXD) | LED, yellow |
| Modem connection OK (CON) | LED, yellow |
| **Environment** | |
| Degree of protection | IP 20 |
| Pollution degree | 3 (IEC 60664) |
| Operating temperature | 0° to +50°C (+32° to +122°F) |
| Storage temperature | -50° to +85°C (-58° to +185°F) |
| **Humidity** (non-condensing) | 0 to 80% |
| **Mechanical resistance** | |
| Shock | 15 G (11 ms) |
| Vibration | 2 G (6-55 Hz) |
| **Material** | Light grey polystyrol |
| **Weight** | 600 g |

## Additional Information

**Scope of supply**

| | |
|---|---|
| 1 x Modem Interface | D 9091 210... |
| 1 x Power cable, 2 m | PWR 230 |
| 1 x User manual | MAN D90xx ENG |

## Dimensions (mm)




## Mode of Operation

D 9091 0210 is a Dupline® modem interface for easy control of Dupline® networks through the telephone lines.

Configuration of the interface is done by means of the configurator type D 9080 or by means of a personal computer running the terminal emulator software D 9091 SW01.

The modem interface features 3 main functions for which it can be configured: public line mode, private line mode and RS 232 interface.

For status indication 4 LEDs are used:

- Call initiate (CI): to identify the dialling modem.
- External Dupline® OK (EXD): indicating that the connected Dupline® is working properly.
- Modem connection OK (CON): showing that connection is established between the 2 modems.
- Power supply ON (PWR): to indicate that power is applied to the unit.

The Run/program push button (5) (accessible with a pen through a hole on the right side of the housing) is used to switch the interface to configuration or Run-mode. When this push button is held down for 5 s the interface changes mode. Configuration mode is indicated by flashing of the three LEDs - CI, EXD and CON.

The voltage selector switch (6) (only on D 9091 0210 230) is used to adapt the unit to the supply voltage.

**Note**: The D 9091 0210 230 is factory set for 230 VAC.

To change the supply voltage proceed as follows:

1. disconnect the power
2. remove the 4 housing screws at the bottom of the unit.
3. lift off the housing top cover
4. move switch (6) into position for selected voltage
5. reassemble the unit
6. change supply voltage label on the rear of the housing
7. connect power cable to power connector (7).

The relay output (8) deenergizes whenever one of the following problems is detected:

- Transmission breakdown
- Continuous reception of corrupted data
- External Dupline® off-line
- Reception of an alarm call

The Dupline® transmission inhibit input (10) is used to reset the data buffer and ignore the data received from the counterpart station. For more details, refer to the description in the manual.

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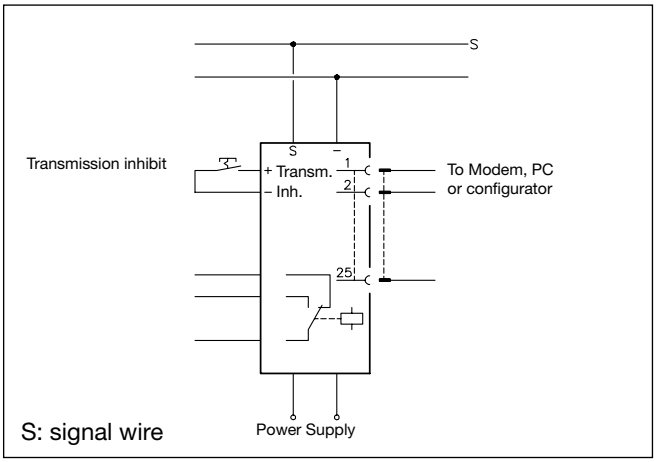
## Wiring Diagram

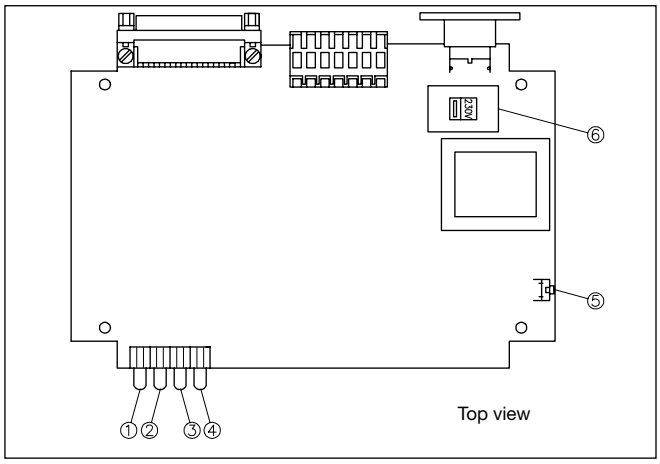


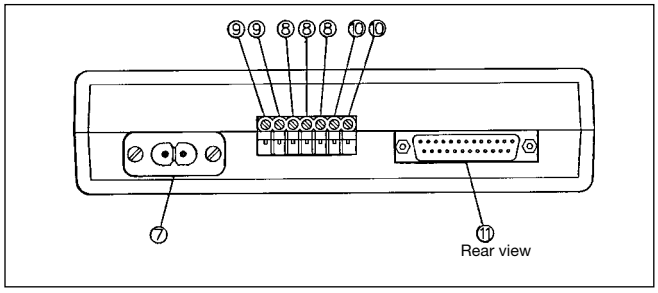

## Accessories

| | |
|---|---|
| Interface configurator | D 9080 |
| Configuration software for | |
| PC: 3 1/2'' disc | D 9091 SW013 |
| 5 1/4'' disc | D 9091 SW015 |
| Configurator cable | RS 232-25M/25F |

For further information refer to "Accessories".

## Functional Description




1) Supply ON-LED (PWR)
2) Call initiate LED (CI)
3) External Dupline® OK-LED (EXD)
4) Modem connection OK-LED (CON)
5) Run/program push button
6) Supply voltage selector switch (D 9091 0210 230 only)
7) Power connector
8) Relay output terminals
9) Dupline® connection terminals (S = signal, - = common)
10) Dupline® Transmission inhibit input terminals
11) Communication port to modem or configurator (D9080)

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